

EXECUTIVE SUMMARY

MAY 25, 1988

Mine Name: Zeigler Gilsonite Mines I.D. No.: M/047/013
 Operator: Zeigler Chemical County: Uintah
& Minerals Corporation New/Existing: Existing
Star Route Mineral Ownership: Fee and State
Little Bonanza, Utah Surface Ownership: Fee and State
 Telephone: (801) 789-3593 Lease No.(s): Various
 Contact Person: Mr. Norman Haslem Permit Term: Life of Mine
 Life of Mine: 20 Years
 Legal Description: Sections 15, 16, 21, 22, 30, T9S, R24E and Section 29,
T10S, R21E, S.L.B.M.
 Mineral(s) to be Mined: Gilsonite
 Mining Methods: Pneumatic chipping hammers and conventional hoist
 Acres to be Disturbed: Mine Area = 13.6, Processing Facilities = 12.4 acres
 Present Land Use: Mining and wildlife grazing
 Postmining Land Use: Wildlife grazing
 Variances from Reclamation Standards (Rule M-10) Granted: None

Soils and Geology:

Soil Description: Sandy loam
 pH: 8.4 - 8.8
 Special Handling Problems: Very little soil will be disturbed
 Geology Description: The gilsonite veins are very narrow (3' to 8' width)
and practically vertical. They are mined up to a depth of 1,000 feet.

Hydrology:

Groundwater Description: Water is pumped from several of the shafts. A
discharge permit has been approved by the Division of Environmental Health.
 Surface Water Description: No ephemeral or perennial streams are located in
the vicinity of mine operations.
 Water Monitoring Plan: N/A

Ecology:

Vegetation Type(s); Dominant Species: Shadscale, sagebrush, rabbitbrush,
four-wing salt bush, cheatgrass, Indian ricegrass and galleta
 Percent Surrounding Vegetative Cover: 15-20%
 Wildlife Concerns: None
 Surface Facilities: Each mine site has a headframe and hoisthouse.
Processing and storage facilities are centralized.
 Mining and Reclamation Plan Summary: See attached.

Surety:

Amount: \$69,100
 Form: Letter of Credit
 Renewable Term: One Year

During Operations

1. Gilsonite will be mined with pneumatic chipping hammers and hoisted to the surface. Average production is about 12,000 tons of gilsonite per year.
2. The gilsonite is trucked to the processing facilities where it is pulverized, solar dried, and packaged for shipment.

After Operations

1. All trash, equipment and unuseable structures will be removed or buried onsite.
2. The shafts will be sealed with a cement cap.
3. Gilsonite will be cleaned up and buried.
4. All disturbed areas will be recontoured, scarified, and seeded.

Reclamation Bond Estimate
Ziegler Chemical and Mineral Corporation
Consolidated Mine Plan - M/047/013

by
Frank J. Filas, Reclamation Engineer

I. Mine Sites (7)

A. Structure Removal and Cleanup	\$ 9,401
B. Earthwork	4,050
C. Shaft Sealing	2,242
D. Revegetation	<u>3,027</u>
Subtotal	\$18,972

II. Processing Plants

A. Structure Removal and Cleanup	\$ 9,296
B. Earthwork	15,426
C. Revegetation	<u>3,339</u>
Subtotal	\$28,061

III. Supervision and Mobilization

\$10,100

Subtotal All Areas \$56,881

IV. 10% Contingency

\$ 5,688

Total 1987 Dollars \$62,569

Total 1992 Dollars* \$69,100

The bond estimate is calculated on the basis that the Division would have to hire a contractor to reclaim the site. Equipment costs are based on current weekly Blue Book rental rates and a written contractor's quote. Labor costs are based on a written contractor's quote.

*Two percent inflation for five years

clj
1243R/63

Details of Reclamation Bond Estimate
Ziegler Chemical and Mineral Corporation
Consolidated Mine Plan - M/047/013

I. Mine Sites

This bond estimate includes the following seven mine sites:
Independent 3 and 5; Little Bonanza 1, 3, 11, and 12; and Little Emma 7.

The bond estimate does not include the following four mine sites which are adequately bonded by State Lands and Forestry:
Cottonwood 1 and 2, Independent 4, and Little Bonanza 8A.

A. Structure Removal

Salvage value is not allowed in Division bond calculations. It is therefore assumed that seven headframes will be dismantled and disposed of in the mined-out workings along with other onsite structures and trash. Equipment and labor to be used is according to Ziegler's bond estimate in the February 1987 submittal.

<u>ITEM</u>	<u>UNIT COST</u>	<u>HRS.</u>	<u>\$COST</u>
30 Ton Crane	119.75/HR	28	3,353
4 Laborers	13.50/HR	448	6,048
	Subtotal		\$ 9,401

B. Earthwork

Removal of excess gilsonite and the recontouring of seven pad areas. Equipment and labor to be used is according to Ziegler's February 1987 bond estimate.

<u>ITEM</u>	<u>UNIT COST</u>	<u>HRS.</u>	<u>\$COST</u>
Front End Loader	53.30/HR	22	1,173
Grader	55.00/HR	18	990
Dump Truck	48.27/HR	22	1,062
D-6 Dozer	55.00/HR	15	825
	Subtotal		\$ 4,050

C. Shaft Sealing

Seal seven shafts with a concrete cap.

ITEM	UNIT COST	HRS.	\$COST
28 Yds Concrete	63.00/YD		1,764
Laborer	13.50/HR	28	378
Forming Material (lump sum)			100
	Subtotal		\$2,242

D. Revegetation

Revegetate approximately 9 acres with a farm tractor and disk. Assume that broadcast methods will be used with the Table 2 Seed Mix. Also assume that approximately 200 pounds of fertilizer will be applied per acre. Approximately four hours will be required to seed each of the seven sites.

ITEM	UNIT COST	HRS.	\$COST
Farm Tractor with Disk	38.80/HR	28	1,086
1 Laborer	13.50/HR	28	378
Seed for 9 Acres	123.63/AC		1,113
Fertilizer for 9 Acres	50.00/AC		450
	Subtotal		\$3,027

II. Processing Plants

This bond estimate includes the following onsite processing facilities: grinder, grinders-solar cell, sacking plant and ore storage area, and pulverizing plant.

The bond estimate does not include the reclamation of the buildings used for offices, bathhouse, and shop. Nor does it include the reclamation of the storage building adjacent to the solar cell. These buildings are to be kept for the postmining land use.

A. Structure Removal

Assume that buildings and related structures will be demolished by a 30-ton crane with wrecking ball and the debris buried on site or placed into nearby mine shafts with a front end loader. Large processing equipment will be hauled offsite.

ITEM	UNIT COST	HRS.	\$COST
30-Ton Crane	119.75/HR	24	2,874
Front End Loader	53.30/HR	40	2,132
Laborers	13.50/HR	160	2,160
Tractor Trailers	53.25/HR	40	2,130
Subtotal			\$9,296

B. Earthwork

Equipment and labor to be used was compiled from descriptions on site maps. Earthwork for the storage-solar cell area was reduced to 16 hours of grader, front end loader, and dump truck time due to the fact that the building will not be removed.

ITEM	UNIT COST	HRS.	\$COST
D-6 Dozer	55.00/HR	44	2,420
Grader	55.00/HR	80	4,400
Front End Loader	53.30/HR	80	4,264
Dump Truck	48.27/HR	80	3,862
Backhoe	24.00/HR	20	480
Subtotal			\$15,426

C. Revegetation

Revegetation of approximately 12 acres at four sites. Assume that broadcast methods will be used and 200 pounds of fertilizer will be applied per acre. Approximately six hours will be required per site to seed and fertilize.

Page 4
Reclamation Bond Estimate
Ziegler Chemical and Mineral Corp.
Revised December 11, 1987

<u>ITEM</u>	<u>UNIT COST</u>	<u>HRS.</u>	<u>\$COST</u>
Farm Tractor with Disk	38.80/HR	24	931
1 Laborer	13.50/HR	24	324
Seed for 12 Acres	123.63/AC		1484
Fertilizer for 12 Acres	50.00/AC		600
	Subtotal		\$3,339

III. Supervision and Mobilization

Approximately two months of site supervision will be required.

<u>ITEM</u>	<u>UNIT COST</u>	<u>HRS.</u>	<u>\$COST</u>
Supervisor	15.00/HR	340	5,100
Mob.-Demob.	Lump Sum		5,000
	Subtotal		\$10,100

NONCOAL
(August 1986)
SAMPLE ONLY

State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
3 Triad Center, Suite 350
355 West North Temple
Salt Lake City, Utah 84180-1203
(801) 538-5340

COLLATERAL BONDING AND INDEMNITY AGREEMENT

THIS COLLATERAL BONDING AND INDEMNITY AGREEMENT entered into by
and between Ziegler Chemical & Mineral Corporation (hereinafter referred to as
"Operator") and the Utah Division of Oil, Gas and Mining
(hereinafter referred to as "Division"),

W I T N E S S E T H

WHEREAS, the Operator has obtained Program Permit No. M/047/013
(hereinafter referred to as "Permit") from the Division to conduct
mining and reclamation activities at the M/047/013
in Uintah County, Utah, as a mine under the Utah Mined Land
Reclamation Act, Utah Code Annotated, 40-8-1, et seq, 1953, as
amended ("Act") and implementing regulations; on the disturbed areas
designated in Exhibit A; and

WHEREAS, the Operator wishes to obtain a bond under 40-8-14(3);
and

WHEREAS, the Operator has provided a(~~X~~) Standby Letter of
Credit issued by National Westminster Bank USA (Exhibit B),
naming the Division as Beneficiary, as collateral to secure this
Collateral Bonding and Indemnity Agreement; and

COLLATERAL BONDING AND INDEMNITY AGREEMENT - NONCOAL

NOW, THEREFORE, in consideration of the premises and other good and valuable consideration, the sufficiency and receipt of which is hereby acknowledged, the Operator does hereby agree to be held and firmly bonds to the Division for the sum of Sixty-nine thousand one hundred Dollars (1992 year dollars) for the timely performance of reclamation responsibilities for Permit No. M/047/013 in lawful money of the United States. By the submission of this Standby Letter of Credit (form of collateral will and truly binds itself, its successors and assigns, jointly and severally, by the conditions of this Agreement.

The conditions of the above obligations are such that:

1. The Operator shall perform all duties and fulfill all requirements applicable to mining and reclamation as set forth in the Act, and regulations adopted pursuant to the Act and the conditions of Permit No. M/047/013 issued by the Division.
2. The liability under this Agreement is conditioned upon successful reclamation of the permit area as provided in the Mining and Reclamation Plan for Permit No. M/047/013 for a period of time and in the manner specified in the Act and regulations adopted pursuant thereto as amended from time to time, and the conditions set forth in Permit No. M/047/013 issued by the Division.

3. The Operator does hereby jointly and severally agree to indemnify and hold the Division harmless from any claim, demand, liability, cost, charge or suit brought by a third party, as a result of the Operator's failure to abide by the term and conditions of the Mining and Reclamation Plan as set forth in Permit No. M/047/013 and from any failure to comply with the terms of this Agreement.
4. Upon successful completion of part or all of the obligations secured hereby, the Operator may petition the Division for a final release of part or all of the obligations under this Agreement. Upon such petition, the Division shall timely conduct an inspection to ascertain whether the duties and obligations of Ziegler Chemical & Mineral Corp. under the Act, regulations adopted pursuant thereto and Permit No. M/047/013 have been fulfilled. If such duties and obligations have been fulfilled, the Division shall release the Operator from part or all of its obligations under this Agreement and shall file notice of such release of collateral held by the Division.
5. This agreement shall be reviewed periodically by the Division, or reviewed upon petition by the Operator, in accordance with the Act and implementing regulations and

COLLATERAL BONDING AND INDEMNITY AGREEMENT - NONCOAL

the amount of liability under this agreement may be adjusted upon written agreement between the Operator and the Division where it is clearly established that the cost of future reclamation has materially changed.

6. This Agreement may be terminated upon ninety (90) days prior written notice to the Division if terminated by the Operator or upon ninety (90) days written notice to the Operator if terminated by the Division. Upon such written notification, the Operator will have ninety (90) days to obtain an alternate form of bond to secure reclamation obligations for Permit No. M/047/013 in the same amount as stated in this Agreement or amendments thereto.
7. Failure to provide a satisfactory alternative form of bond will result in the complete cessation of all mining operations and the complete reclamation of all disturbed areas within the M/047/013 Mine permit area.
8. Any breach of the provisions of paragraph #8 of this Agreement will result in the payment of \$69,100.00***** (bond amount) liquidated damages to the Division.
9. This Agreement will be governed and interpreted according to Utah law.

SO AGREED this 28 day of MARCH, 1988.

COLLATERAL BONDING AND INDEMNITY AGREEMENT - NONCOAL

ATTEST:

Secretary

ZIEGLER CHEMICAL & MINERAL CORPORATION

By

President
Corporate Officer - Position

STATE OF UTAH, DEPARTMENT OF
NATURAL RESOURCES, BOARD OF
OIL, GAS AND MINING

By

Gregory P. Williams, Esq.
Chairman, Board of
Oil, Gas and Mining

APPROVED AS TO FORM:

Assistant Attorney General

STATE OF New York)
COUNTY OF Nassau) ss:

On the 28 day of MARCH, 1988, personally appeared
before me Gordon Ziegler, Jr. ~~and~~ who
being by me duly sworn did say that he ~~was~~, the said Gordon
Ziegler, Jr. is the President of Ziegler
Chemical & Mineral Corp. and said instrument was signed in behalf
of said corporation by authority of its bylaws or a resolution of
its board of directors and said Gordon Ziegler, Jr.
~~and~~ duly acknowledged to me that said
corporation executed the same.

COLLATERAL BONDING AND INDEMNITY AGREEMENT - NONCOAL

Brian Lynch
Notary Public

Residing at:

25 Joseph Ln. E. North Plainfield, NJ

My Commission Expires:

1/31/90

BRIAN LYNCH
NOTARY PUBLIC, State of New York
No. 01LY4613944
Qualified in Nassau County
Commission Expires January 31, 1990

STATE OF _____)
COUNTY OF _____)

ss:

On the _____ day of _____, 198____, personally appeared before me Gregory P. Williams, Esq. who being by me duly sworn did say for himself, that he, the said Gregory P. William, Esq. is the Chairman of the Board of Oil, Gas and Mining, Department of Natural Resources, state of Utah, and she duly acknowledged to me that said Division executed the foregoing document by authority of law on behalf of the state of Utah.

Notary Public

Residing at: _____

My Commission Expires:
